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Measuring Educational Disadvantage of SAT® Candidates

Lawrence J. Stricker, Donald A. Rock, Judith M. Pollack, and Harold H. Wenglinsky

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Abstract

This study explored individual differences in educational disadvantage—deficits in formal and informal education in the school, home, and elsewhere—in the SAT® test-taking population. Data on variables that reflect educational disadvantage were obtained from SAT I: Reasoning Test takers via a mail survey and from archival records for their schools and neighborhoods. Factor analysis identified six educational disadvantage factors—four concerning the students' schools and two the students' nativity and parenting—and one family socioeconomic status factor. The educational disadvantage factors were moderately related to the family socioeconomic status factor, race/ethnicity, high school grades, and SAT scores. The individual–differences perspective on disadvantage appears to be a viable one, and educational disadvantage seems to be a meaningful and useful construct.

Key Words: disadvantage, socioeconomic status, race, ethnicity, SAT, high school grades

I. Introduction

The aim of this study was to explore the nature of individual disadvantage in the SAT test-taking population. Disadvantage is commonly defined on the basis of membership in social categories, such as gender groups, ethnic groups, or social classes. This way of defining disadvantage is a subject of much controversy in our society. Furthermore, such definitions are problematic from a scientific perspective for two reasons. First, they are imprecise because of the wide variation in disadvantage within these social categories. For example, blacks are more disadvantaged, on average, than whites, on virtually every objective index of economic and social disadvantage, but some whites are more disadvantaged than some blacks. And second, those definitions do not delineate the nature of the disadvantage, which runs the gamut from inequalities in educational resources to disparities in sentences for criminal convictions.

An obvious alternative is to consider individuals' disadvantage without regard to their group membership. Indeed, Novick and Ellis (1977) explicitly proposed such an approach:

> What is required is a means of awarding compensatory treatment based on individual disadvantage rather than on possession of racial or ethnic characteristics. This, in turn, argues for a shift in research efforts away from the development of procedures to identify and compensate for disparities in opportunity for racial and ethnic groups and toward the identification and compensation for disadvantage borne by individuals, without regard to race or ethnicity. (p. 318)

Novick and Ellis note that disadvantage includes not only objective, structural variables, such as unstable home environments, lack of exposure to standard English, and economic deprivation, but also more subjective, psychological variables, such as reinforcements and expectations. One such psychological variable is "stereotype threat," which Steele (1997) suggests is a determinant of black students' performance on ability tests.

The Novick and Ellis suggestion has not been followed up systematically, though recent plans to substitute socioeconomic status for ethnicity in admission to the University California are consistent with this idea (Lively, Lai, Levenson, and Rivera, 1995). More generally, Kahlenberg (1996) has argued for the wholesale substitution of socioeconomic status for ethnicity in all affirmative action efforts.

Over the years, though, a great deal of research relevant to individual differences in disadvantage has been carried out, primarily by educational and developmental psychologists studying the cognitive development of school and preschool children (e.g., Iverson and Walberg, 1982; Walters and Stinnett, 1971), sociologists investigating the educational attainment of immigrant and minority children (e.g., Caplan, Choy, and Whitmore, 1991; Clark, 1983), economists and sociologists examining schools' productivity (e.g., Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, and York, 1966; Hanushek, 1997), and sociologists appraising the educational and occupational attainment of adults (e.g., Blau and Duncan, 1967; Sewell and Hauser, 1972).

Two conclusions from this research are:

1. Parental education, parenting behavior (e.g., activities with child, expectations for him or her), and school characteristics are associated with performance on ability and achievement tests. For example, a meta-analysis by White (1982) examined the associations of socioeconomic status and parenting measures with three kinds of cognitive measures: intelligence tests, achievement tests, and GPAs. The mean correlations were .32 for family income, .18 for parental education, .20 for parental occupation, and .58 for parenting. And a review of 28 large-scale input–output studies of educational outcomes by Bridge, Judd, and Moock (1979) found that a variety of student and school charac-

teristics were consistently associated with school achievement, including students' attendance, their family size and possessions, and their parental socioeconomic status; tracking programs in the school; and teachers' experience and turnover.

2. Parental education, parenting behavior, and school characteristics are also associated with educational attainment. For example, in a longitudinal study of all boys who were high school seniors in Wisconsin in 1957, educational attainment seven years after graduation from high school correlated .27 with mother's education, .31 with father's education, .47 with parental encouragement, and .41 with teachers' encouragement (Sewell and Hauser, 1972).

This body of work makes it clear that a number of variables reflecting disadvantage are associated with cognitive development, success in school, and educational attainment, and suggests that systematic research explicitly concerned with individual disadvantage, building on, integrating, and extending the previous work, is warranted. Disadvantage is a complex and subtle phenomenon, and includes outright discrimination and prejudice, and other things that are important but difficult or impossible to assess. Accordingly, the focus here will be on a major component of disadvantage that is more readily appraised and is of special relevance to test performance and educational achievement: educational disadvantage. Broadly defined, educational disadvantage consists of deficits in formal and informal education in the school, home, or elsewhere that are not primarily under the individual's control.

Educational disadvantage, though related to socioeconomic status, is conceptually narrower and should be empirically distinguishable. By the same token, educational disadvantage has no connection with "cultural disadvantage," which has connotations of invidious comparisons among different cultures and value judgments about which cultures are superior.

Accordingly, this study has several specific purposes: (a) to assess whether an educational disadvantage construct can be empirically identified, and, if so, what variables define it; (b) to determine whether educational disadvantage can be differentiated from socioeconomic status and race/ethnicity; (c) to appraise whether this construct is similar for different racial/ethnic groups; and (d) to evaluate the relations of this construct with high school grades and SAT I: Reasoning Test performance.

II. Method

Sample

The sample was randomly drawn from students who (a) registered for the October 1999 SAT administration, (b) were high school seniors, and (c) resided in the 50 states: 250 white, 247 black, 243 Hispanic, and 248 Asian students, a total of 988 students.[1] A total of 551 (55.8 percent) responded to the survey: 152 white, 129 black, 117 Hispanic, and 153 Asian students.

Measures

Identifying Variables

Educational disadvantage variables. The relevant research literature on educational disadvantage was reviewed to identify variables that are well established to be related to educational disadvantage, as manifested in deficits in cognitive development, success in school, and educational attainment, and that can be accurately and feasibly assessed with information obtained directly from the students or from archival information about their schools. In view of the massive quantity of this literature, existing reviews were used when available.

The variables selected through this process were:

1. Preschool attendance (Barnett, 1995, 1998; Clarke-Stewart, 1991; Lewis and Vosburgh, 1988; MacDonald, 1986; Ramey, Bryant, and Suarez, 1985; Ramey and Ramey, 1998; Rutter, 1983; Van Crombrugge and Vandemeulebroecke, 1991).
2. Socioeconomic status of student body (Bridge et al., 1979; Mayer and Jencks, 1989; Rutter, 1983).
3. Ethnicity of student body (Rutter, 1983).
4. Student/teacher ratio (Borger, Lo, Oh, and Walberg, 1985; Greenwald, Hedges, and Laine, 1996; Hanushek, 1997; Rutter, 1983).
5. Teacher expectations (Borger et al., 1985; Burstall, 1978; Cooper, 1979; Dusek, 1975; Rutter, 1983).
6. Teacher time on task (Borger et al., 1985; Rosenshine and Furst, 1971; Rutter, 1983).
7. Teacher monitoring of student progress/clear feedback (Borger et al., 1985; Rutter, 1983).
8. School climate (Borger et al., 1985; Rutter, 1983).
9. Noise outside classroom (Dejoy, 1983; Weinstein, 1979).

[1] The sample was limited to the 50 states because many variables in the study concerned the students' schools, and data for schools located elsewhere are either unavailable or not comparable.

10. Parental interaction with school/monitoring with homework (Christenson, Rounds, and Gorney, 1992; Masten and Coatsworth, 1998).
11. Parental opportunities for learning (Christenson et al., 1992).
12. Parental warmth/support (Masten and Coatsworth, 1998; Rollins and Thomas, 1979; Silber 1989; Wachs and Gruen, 1982).
13. Parental authoritarianism (Christenson et al. 1992; Rollins and Thomas, 1979; Silber, 1989; Wachs and Gruen, 1982).
14. Parental reading (Christenson et al., 1992).
15. Parental expectations (Christenson et al., 1992; Kellaghan, Sloane, Alvarez, and Bloom, 1993; Masten and Coatsworth, 1998).
16. Maternal age (Brooks-Gunn and Furstenberg, 1986; Gunter and La Barba, 1980).
17. Family conflict (Silber, 1989).
18. Nonintact home (one or both natural parents absent; Marino and McCowan, 1976; Montemayor, 1984; Robin, 1979; Shinn, 1978; Slaughter-Defoe, Nakagawa, Takanishi, and Johnson, 1990; Wodarski, 1982; Zajonc, 1976; Zill, 1996).
19. Sibship size (number of siblings; Laosa and Henderson, 1991; Marjoribanks, 1979; Steelman, 1985; Wachs and Gruen, 1982).
20. Crowding ratio (Walberg and Marjoribanks, 1976).
21. Peer influence (Ide, Parkerson, Haertel, and Walberg, 1980).
22. Neighborhood affluence (McLoyd, 1998).

Several other variables, not identified in the research literature, were selected because of their potential relevance: cultural amenities in home, parental cultural activities, foreign language usage in home, and nativity of parents and students. Several others were selected to augment the limited number of available school variables: school's control (public, private) and location (urban, suburban, rural), number of academic programs in high school, and percent of college-bound seniors in high school.

Socioeconomic status variables. Several socioeconomic status variables were chosen for the study: parents' education, parents' occupations, family income, and possessions.

Outcome variables. The outcome variables were high school grades and SAT scores.

Obtaining Measures

Measures of the educational disadvantage, socioeconomic status, and outcome variables were obtained from several sources: the Student Descriptive Questionnaire (SDQ) completed by students when they register for the SAT, a questionnaire mailed to students in this study, archival data for the students' schools and residence reported on the questionnaire and in College Board Program files, and test scores in the College Board Program files.[2]

SDQ. Several educational disadvantage, socioeconomic status, and outcome variables were available from the SDQ. The educational disadvantage variable was: Student's first language (English [1], English and Another Language [0], Another Language [0]).

The socioeconomic status variables were:

1. Parents' education (*Grade School* to *Graduate Professional Degree*—the highest level for either parent was used; *Grade School* to *High School Diploma or Equivalent* = 0, *Some College* to *Graduate or Professional Degree* = 1).
2. Family income (*Less than $10,000* to *More than $100,000*; *Less than $10,000* to *About $40,000 to $50,000* = 0; *About $50,000 to $60,000* to *More than $100,000* = 1).

The outcome variables were:

1. High school rank (*Highest Tenth* [95] to *Lowest Fifth* [10]).
2. Grade-point average (*A* [4.0] to *E/F* [.0]).

Questionnaire. Most of the educational disadvantages and socioeconomic status variables were incorporated in a questionnaire. Existing scales with known reliability and validity were used, when available. New scales were constructed and existing scales adapted, when necessary, so that the scales were balanced in keying. The questionnaire was pilot tested with a group of eight recent graduates of Hamilton High School (New Jersey). The questionnaire took about 15 minutes to complete. (The questionnaire appears in the Appendix, page 18.) The educational disadvantage variables were:

1. Had day care. This is a single item, "Did you attend these schools or programs—e.g., Day care?," with *Yes* [1], *No* [0], and *Don't Know* options.
2. Attended nursery school. This is a single item paralleling Had Day Care (e.g., "Nursery school?").
3. Teacher expectations. This is a three-item scale adapted from Brookover, Beady, Flood, Schweitzer, and Weisenbaker (1979) and Marjoribanks (1994)

[2] The scoring of single items is shown in brackets.

("How well do these statements describe your current high school?—e.g., Teachers think you could finish college") with three options ranging from *Very True* to *Not at All True*, plus *Don't Know*.

4. Teacher time on task. This is a three-item scale adapted from Marjoribanks (1994) and Trickett and Moos (1974) paralleling Teacher Expectations (e.g., "Teachers try to accomplish a lot in every class session").

5. Teacher monitoring. This is a three-item scale paralleling Teacher Expectations (e.g., "Teachers tell students how well they are doing").

6. Achievement atmosphere. This is a three-item scale adapted from McDill and Rigby (1973) paralleling Teacher Expectations (e.g., "Students who do outstanding school work are admired by their classmates").

7. Safe/orderly environment. This is a three-item scale adapted from the National Education Longitudinal Study of 1988 (NELS: 88; U.S. Department of Education, 1988) paralleling Teacher Expectations (e.g., "Classes are disrupted by rowdy students").

8. School noise. This is a three-item scale paralleling Teacher Expectations (e.g., "It's hard to hear teachers because of noise in the school or outside of it").

9. Parental involvement in school. This is a five-item scale adapted from Eccles and Harold (1996) ("Did your parents…do these things during your junior year of high school?—e.g., Attend a regular parent/teacher conference") with *Yes*, *No*, and *Don't Know* options.

10. Parental monitoring. This is a six-item scale adapted from Eccles and Harold (1996) and NELS: 88 ("How often did your parents… do these things during your junior year of high school—e.g., Help you with homework or school assignments") with five options ranging from *Never* to *Very Often*.

11. Parental learning opportunities. This is a six-item scale adapted from Eccles and Harold (1996), Marjoribanks (1994), and Peaker (1975) ("How often do your parents…do these things?—e.g., Praise you for things you do in school") with five options ranging from *Never* to *Very Often*.

12. Parental cultural activities. This is a two-item scale adapted from Peaker (1975) paralleling Parental Learning Opportunities (e.g., "Encourage you to go to concerts or other musical events").

13. Parental warmth. This is a four-item scale adapted from Siegelman (1965) paralleling Parental Learning Opportunities (e.g., "Be affectionate to you").

14. Parental authoritarianism. This is a six-item scale adapted from Dornbusch, Ritter, Leiderman, Roberts, and Fraleigh (1987) and Eccles and Harold (1996) paralleling Parental Learning Opportunities (e.g., "When you get a good grade, say you should do even better").

15. Parental reading. This is a three-item scale adapted from Marjoribanks (1994) ("How often do your parents…read these things?—e.g., Newspapers") with four options ranging from *Never* to *Once a Week or More*.

16. Cultural amenities. This is a nine-item scale adapted from Coleman et al. (1966) ("Which of these things does your family have?—e.g., Dictionary") with a checklist format.

17. Parental educational aspirations. This is a single item adapted from Brookover et al. (1979), "How far do you think your parents…expect you to go in school?," with five options ranging from *Graduate from High School* [12] to *Graduate or Professional Degree* [18], plus *Don't Know*.

18. Parental expectations in high school. This is a single item adapted from Eccles and Harold (1996), "How well did your parents…expect you to do in high school?," with five options ranging from *One of the Best Students* [5] to *One of the Worst Students* [1], plus *Don't Know*.

19. Maternal age. This is a single item, "If you live with your mother…, about how old is she?," with five options ranging from *Under 35 Years Old* to *60 Years Old or More* (*Under 35 Years Old* and *35 to 39 Years Old* = 1, all other options except *Don't Know* = 0).

20. Father's nativity. This is a single item adapted from McDill and Rigby (1973), "Where [was] your father…born?," with *In the United States* [1] and *Outside the United States* [0] options.

21. Mother's nativity. This is a single item adapted from McDill and Rigby (1973) paralleling Father's Nativity, "Where [was] your mother…born?"

22. Student's nativity. This is a single item adapted from the National Assessment of Educational Progress (U.S. Department of Education, 1991) "About how long have you lived in the United States?," with *All Your Life* [1] and four other options ranging from *More than 10 Years* to *Less than 1Year* [0].

23. English spoken at home. This is a single item adapted from Peaker (1975), "What language do your parents…usually speak at home," with *English* [1] and five other options [0].

24. Family conflict. This is a four-item scale adapted from Eccles and Harold (1996) ("How often does your family do these things—e.g., Ignore each other") with five options ranging from *Never* to *Very Often*.)

25. Nonintact home. This is a single item adapted from McDill and Rigby (1973), "Who do you live with?," with *Mother and Father* [0], and five other options [1].

26. Sibship size. This is a single item adapted from Coleman et al. (1966), "How many brothers and sisters do you have *altogether*," with an open-ended response format.

27. Crowding ratio. This variable is based on two single items adapted from Coleman et al. (1966), "How many people…live in your home?" and "How many rooms are there in your home?," both with free-response formats. It is the ratio of number of people to number of rooms.

28. Peer influence. This is a four-item scale adapted from Eccles and Harold (1996) ("These are questions about the friends you spent most of your time with during your junior year of high school—e.g., How many were doing well in high school?") with five options ranging from *None of Them* to *All of Them*.

The socioeconomic status variables were:

1. Parents' occupations. This variable is based on two single items adapted from Stricker (1988), "What kind of work does your father… and your mother… do?," with 17 options ranging from *Professional* [*61*] to *Private Household Worker* [*17*], plus *Other* and *Don't Know*. The options for each parent are given the Total Socioeconomic Index score for major occupational groups in the 1990 Census (Hauser and Warren, 1997). No scores are available for *Other*, *Armed Forces Member*, *Homemaker*, or *Don't Know*. In instances where *Other* occupations were written in, this option was changed to an appropriate scorable option, when possible. The highest score for either parent was used.

2. Possessions. This is a five-item scale adapted from Coleman et al. (1966), paralleling Cultural Amenities (e.g., "Cell phone").

Each scale was item analyzed for the total sample. Product–moment correlations were computed between each item and the total score for its scale (excluding the item). All items had significant correlations ($p < .05$, one-tail) with their total score.

Archival data. A number of educational disadvantage variables for the school and neighborhood were derived from archival data. The variables follow:

1. Elementary school: control. The type of control (*public/county* [1], *private* [0], *Catholic* [0]) of the students' elementary school was obtained from Market Data Retrieval (1999).

2. Elementary school: location. The location (*urban* [1], *suburban* [0], *rural/nonmetropolitan* [0]) of the students' elementary school was obtained from Market Data Retrieval (1999).

3. Elementary school: percent children white—census tract.[3] The percent of children (5 to 17 years old) who are white in the census tract of the students' elementary school was derived from the 1990 Census.

4. Elementary school: parent families below poverty line—census tract. The percent of families with related children under 18 years old who are below the poverty line in the census tract of the students' elementary school was obtained from the 1990 Census.

5. Elementary school: percent persons employed in white collar occupations—census tract. The percent of employed persons 16 years and over in five major occupational groups, ranging from *Executive* to *Administrative Support*, in the census tract of the students' elementary school was derived from the 1990 Census.

6. Elementary school: percent persons with some college education—census tract. The percent of persons 25 years and over in four educational categories, ranging from *Some College*, *No Degree* to *Graduate or Professional Degree*, in the census tract of the students' elementary school was derived from the 1990 Census.

7. Middle school: control. This variable for the students' middle school parallels elementary school: control.

8. Middle school: location. This variable for the students' middle school parallels elementary school: location.

[3] Forty-nine (8.8 percent) of the 551 students had both elementary schools and middle schools in the same zip code, resulting in the use of the same census tract data for both schools.

9. Middle school: percent children white—census tract. This variable for the students' middle school parallels elementary school: percent children white—census tract.

10. Middle school: percent families below poverty level—census tract. This variable for the students' middle school parallels elementary school: percent families below poverty level—census tract.

11. Middle school: percent persons employed in white collar occupations—census tract. This variable for the students' middle school parallels elementary school: percent persons employed in white collar occupations—census tract.

12. Middle school: percent persons with some college education—census tract. This variable for the students' middle school parallels elementary school: percent persons with some college education—census tract.

13. High school: control. This variable for the students' high school parallels elementary school: control.

14. High school: location. This variable for the students' high school parallels elementary school: location.

15. High school: student/teacher ratio. The student/teacher ratio for the students' high school was derived from Market Data Retrieval (1999), *Peterson's Guide to Private Secondary Schools* (1996), and *The Handbook of Private Schools* (1996).

16. High school: percent college-bound seniors. The percent of graduates entering college in the student's high school was obtained from the College Board survey of high schools.

17. High school: number of academic programs. The number of academic programs (*college course work*, *honors or accelerated courses*, and *independent study*) in the students' high school was derived from the College Board survey of high schools.

18. Parent family income $50,000 or more—census tract. The percent of families with income of $50,000 or more in the census tract of the students' residence was derived from the 1990 Census. The $30,000 figure based on the 1980 Census used in a previous study (Brooks-Gunn, Duncan, Klebanov, and Sealand, 1993) was adjusted for inflation, using the Consumer Price Index for all urban consumers for 1979 and 1989; 1979 income of $30,000 is comparable to 1989 income of $51,300.

SAT. Other outcome variables, SAT verbal and mathematical scores, were obtained from College Board Program files.

III. Procedure

A letter describing the purpose of the study, along with the questionnaire, a return envelope, and a $5 check was mailed to test-takers on October 8 to arrive immediately after the test administration on October 9. A follow-up letter, with another questionnaire and return envelope, were mailed on October 29, three weeks after the initial letter, to those who had not returned questionnaires. (Both letters appear in the Appendix.)

IV. Analysis

The representativeness of the respondents was appraised by Chi Square analyses of categorical background variables and *t* tests of the means for continuous background variables and SAT scores for respondents and nonrespondents.

The internal–consistency reliability of the questionnaire scales for the total sample and each ethnic group was computed by Coefficient Alpha.

The factor structure of the 51 educational disadvantage and socioeconomic status variables was evaluated in two stages. First, in the absence of clear hypotheses about the factor structure, an exploratory factor analysis was conducted for a random half of the sample ($N = 267$), each racial/ethnic group weighted to reflect its representation in the population of SAT test-takers in the October 1999 administration. (Missing data were estimated by the EM algorithm from the data for the 51 variables plus ethnicity for the total sample.) The principal axis method was used, with squared multiple correlations as communality estimates, and oblique rotations by the Promax method. Based on an inspection of the eigenvalues, a series of factor analyses was conducted for different numbers of factors. A solution was chosen on the basis of its interpretability. Salient variables that had pattern coefficients of ±.30 or more on one factor and less than ±.30 on the other factors were identified.

Second, a confirmatory factor analysis was conducted for the total sample, using the salient variables identified in the exploratory factor analysis to define the hypothesized factors. In this new analysis, the estimates for missing data obtained in the exploratory factor analysis were used, each ethnic group was again weighted to reflect its representation in the test-taking population, and variables were standardized. A polyserial intercorrelation matrix was computed with PRELIS2 (Joreskog and Sorbom, 1996b). Two factor analyses were computed with LISREL8 by the weighted least squares method (Joreskog and Sorbom, 1996a) to test the main hypothesis that there are several factors defined by the salient variables and the

null hypothesis that there is a single factor defined by these variables. The results for each analysis were assessed with four goodness of fit indexes: χ^2, χ^2/df, nonnormed fit index, and standardized root mean square residual. Note that the goodness of fit indexes for the main analysis are inflated because of the overlap between the half sample used in the initial analysis that identified the salient variables and the full sample used in the main analysis. Obviating this difficulty by doing the main analysis in the other half sample was precluded by the small sample size.

Factor scores were computed from the multiple regression of the variables on each of the several factors in the main confirmatory factor analysis in order to appraise the relations of the factors with race/ethnicity and the outcome variables (high school grades and SAT scores), and the interrelations of the factors within the racial/ethnic groups. The product–moment intercorrelations of the factor scores were computed for each racial/ethnic group, the multiple correlations of the factor scores with race/ethnicity (dummy coded) were calculated for the total sample (weighted), and the correlations of the factor scores with high school grades and SAT scores were computed for the total sample (weighted) and each racial/ethnic group (using the available grade and score data; missing data were not estimated).[4]

Both statistical and practical significance were considered in evaluating the results. For statistical significance, an .05 alpha level was used in all analyses. For practical significance, indexes that reflect a "small" effect size, accounting for 1 percent of the variance, were used (Cohen, 1988): A d of ±.20 or more in the t test analyses, a W of .10 or more in the Chi Square analyses, and an r or R of ±.10 or more in the correlation analyses. In analyses of weighted data, the actual N, not the weighted N, was used in assessing statistical significance.

V. Results

Respondents vs. Nonrespondents

The background characteristics, high school grades, and SAT I scores of the respondents and nonrespondents are summarized in Table 1. The differences between the two groups were not statistically and practically significant for Age, Sex, U.S. Citizenship, Father's Education, Mother's Education, Family Income, High School Rank, and SAT scores. However, the differences were significant for race/ethnicity (χ^2=13.07, p < .01, W=.12), with more white and Asian students being respondents, and Grade-Point Average (t=13.09, p < .01, d=.23), with higher grades for respondents.

TABLE 1

Characteristics of Respondents and Nonrespondents

	Respondents		*Nonrespondents*		
Variable	*N*	*Mean or Percent*	*N*	*Mean or Percent*	*Significance*
Age: Mean	543	17.6	430	17.5	t=.56
Sex: Percent female	547	62.3	436	56.0	χ^2=4.10*
Race/Ethnicity:	551		437		χ^2=13.07**[a]
Percent White		27.8		21.7	
Percent Black		23.4		27.0	
Percent Hispanic		21.2		28.8	
Percent Asian		27.6		22.4	
Citizenship: Percent U.S. citizens	545	88.4	433	88.5	χ^2=.00
Father's education:					
Percent with college education	494	70.0	382	64.1	χ^2=3.43
Mother's education:					
Percent with college education	513	70.4	400	64.7	χ^2=3.26
Family income:					
Percent with $50,000 or more income	495	47.3	370	45.4	χ^2=.30
Grade-Point Average: Mean	535	3.4	420	3.3	t=3.62**[a]
High School Rank: Mean	478	74.3	372	71.8	t=1.98*
SAT V	525	498.2	398	483.2	t=2.11*
SAT M	525	522.4	398	501.3	t=2.75**

*p < .05; **p < .01; [a]d > .20 or W > .10

[4] A direct assessment of the invariance of the factor structure across racial/ethnic groups, via confirmatory factor analysis, was precluded by the small sample sizes for these groups.

Reliability of Scales

The reliability of the questionnaire scales is summarized in Table 2 for the total group and in Table 3 for the four racial/ethnic groups. The reliability of most scales was over .5, with several consistent exceptions: Teacher Expectations, Teacher Monitoring, Achievement Atmosphere, and Safe/Orderly Environment.

Factor Analyses

Factor structure

Seven factors were identified in the exploratory factor analyses; the factors were defined by 40 of the 51 variables. The 11 variables without salient loadings are listed in Table 4; they comprise both school and family variables.

The factor loadings for the confirmatory factor analyses of the 40 variables with salient loadings are reported in Table 5 for the seven-factor solution. For this solution, the χ^2 (719) was 921.01, the χ^2/df was 1.28, the nonnormed fit index was .93, and the standardized root mean square residual was .05. The corresponding goodness of fit indexes for the one-factor solution were 2741.37 for χ^2 (740), 3.70 for χ^2/df, .36 for nonnormed fit index, and .09 for the standardized root mean square residual. All of these indexes indicate a good fit for the seven-factor solution and a poor one, both absolutely and relatively, for the one-factor solution.

The factors were I: Socioeconomic Status of School/Neighborhood, II: U.S. Nativity, III: Parenting, IV: School Urbanicity, V: High School Atmosphere, VI: Socioeconomic Status of Family, and VII: Public Control of Schools. All variables had loadings of ±.30 or more on the parent factors except Nonintact Home (-.13 on Factor III: Parenting). It is noteworthy that two of the factors were defined solely by variables selected because they appeared relevant (II: U.S. Nativity) or they augmented school variables (VII: Public Control of Schools), not because they were identified in previous research.

TABLE 2

Reliability of Questionnaire Scales in Total Sample

Scale	*Reliability*
Teacher Expectations	.40
Teacher Time on Task	.61
Teacher Monitoring	.35
Achievement Atmosphere	.40
Safe/Orderly Environment	.42
School Noise	.72
Parental Involvement	.73
Parental Monitoring	.85
Parental Learning Opportunities	.79
Parental Cultural Activities	.64
Parental Warmth	.86
Parental Authoritarianism	.57
Parental Reading	.65
Cultural Amenities	.58
Family Conflict	.70
Peer Influence	.83
Possessions	.52

TABLE 3

Reliability of Questionnaire Scales in Racial/Ethnic Groups

	Reliability			
	Racial/Ethnic Group			
Scale	*White*	*Black*	*Hispanic*	*Asian*
Teacher Expectations	.36	.42	.58	.25
Teacher Time on Task	.71	.58	.52	.60
Teacher Monitoring	.25	.33	.44	.38
Achievement Atmosphere	.39	.43	.46	.39
Safe/Orderly Environment	.49	.26	.48	.46
School Noise	.74	.73	.72	.68
Parental Involvement	.63	.70	.69	.69
Parental Monitoring	.85	.83	.84	.85
Parental Learning Opportunities	.75	.84	.77	.78
Parental Cultural Activities	.72	.62	.50	.74
Parental Warmth	.82	.84	.88	.86
Parental Authoritarianism	.60	.57	.50	.50
Parental Reading	.41	.67	.68	.66
Cultural Amenities	.54	.59	.60	.50
Family Conflict	.78	.70	.72	.62
Peer Influence	.86	.86	.83	.79
Possessions	.47	.48	.42	.61

TABLE 4

Variables Without Salient Loadings in Exploratory Factor Analysis

Variable
Had day care
Attended nursery school
Parental educational aspirations
Parental expectations in high school
Maternal age
Sibship size
Elementary school: Percent families below poverty level—census tract
Middle school: Percent families below poverty level—census tract
High school: Student/teacher ratio
High school: Percent college-bound seniors
High school: Number of academic programs

TABLE 5

Factors in Total Sample: Seven-Factor Solution

Variable	*Loading*
Factor I: Socioeconomic Status of School/Neighborhood	
Middle school: Percent persons employed in white collar occupations—census tract	.63
Elementary school: Percent persons employed in white collar occupations—census tract	.62
Middle school: Percent persons with some college education—census tract	.60
Elementary school: Percent persons with some college education—census tract	.57
Neighborhood: Percent family income $50,000 or more—census tract	.51
Factor II: U.S. Nativity	
English spoken at home	.73
Mother's nativity	.70
Student's first language	.67
Father's nativity	.66
Student's nativity	.54
Factor III: Parenting	
Parental learning opportunities	.59
Parental monitoring	.54
Parental warmth	.54
Parental cultural activities	.51
Parental involvement in school	.42
Nonintact home	-.13
Parental authoritarianism	-.41
Family conflict	-.43
Factor IV: School Urbanicity	
Middle school: Location	.69
Elementary school: Location	.66
High school: Location	.65
Middle school: Percent children white—census tract	-.38
Elementary school: Percent children white—census tract	-.41
Factor V: High School Atmosphere	
High school: Teacher time on task	.49
High school: Safe, orderly environment	.45
High school: Teacher expectations	.44
High school: Achievement atmosphere	.44
High school: Teacher monitoring	.30
High school: Peer influence	.34
High school: School noise	-.39
Factor VI: Socioeconomic Status of Family	
Parents' education	.51
Parents' occupations	.50
Parental reading	.47
Family income	.45
Possessions	.41
Cultural amenities	.30
Crowding ratio	-.32
Factor VII: Public Control of Schools	
Middle school: Control	.71
High school: Control	.67
Elementary school: Control	.63

Factor intercorrelations

The intercorrelations of the factors for the seven-factor solution appear in Table 6. The corresponding intercorrelations of the factor scores in the racial/ethnic groups appear in Table 7.

Total sample. The intercorrelations of the factors were generally slight or minimal for the total sample, except for four clusters of moderate correlations: (a) VI: Socioeconomic Status of Family with I: Socioeconomic Status of School/Neighborhood (.40), II: U.S. Nativity (.49), III: Parenting (.34), and VII: Public Control of Schools (-.39); (b) II: U.S. Nativity with III: Parenting (.31) and IV: School Urbanicity (-.32); (c) III: Parenting with V: High School Atmosphere (.44); and (d) V: High School Atmosphere with VII: Public Control of Schools (-.37). The slight but statistically and practically significant correlations were (a) VII: Public Control of Schools with I: Socioeconomic Status of School/Neighborhood (-.15), II: U.S. Nativity (-.15), III: Parenting (-.18), and IV: School Urbanicity (-.19); (b) VI: Socioeconomic Status of Family with IV: School Urbanicity (-.14) and V: High School Atmosphere (.24); and (c) I: Socioeconomic Status of School/Neighborhood with V: High School Atmosphere (.20), and (d) IV: School Urbanicity with III: Parenting (-.10).

Racial/ethnic groups. The intercorrelations of the factor scores were similar in the racial/ethnic groups, with a few exceptions for Hispanic and Asian students. For both of these groups, VI: Socioeconomic Status of Family correlated moderately with II: U.S. Nativity (.39 and .45, respectively) in contrast to its minimal correlations for white and black students (-.07 and -.08, respectively). In addition, for Hispanic students, VI: Socioeconomic Status of Family also correlated moderately with V: High School Atmosphere

TABLE 6

Intercorrelations of Factors in Total Sample

Factor	*I*	*II*	*III*	*IV*	*V*	*VI*	*VII*
I. Socioeconomic Status of School/ Neighborhood		.02	.08	-.05	.20	.40	-.15
II. U.S. Nativity			.31	-.32	.09	.49	-.15
III. Parenting				-.10	.44	.34	-.18
IV. School Urbanicity					.05	-.14	-.19
V. High School Atmosphere						.24	-.37
VI. Socioeconomic Status of Family							-.39
VII. Public Control of Schools							

Note. Intercorrelations that are statistically ($p < .05$, two-tail) and practically ($r > .10$) significant are underscored.

TABLE 7

Intercorrelations of Factor Scores in Racial/Ethnic Groups

Factor	*I*	*II*	*III*	*IV*	*V*	*VI*	*VII*
White							
I. Socioeconomic Status of School/ Neighborhood		.03	.12	.09	.19	.32	-.13
II. U.S. Nativity			.09	.02	.17	-.07	.02
III. Parenting				.01	.36	.22	-.11
IV. School Urbanicity					.06	.13	-.16
V. High School Atmosphere						.14	-.18
VI. Socioeconomic Status of Family							-.20
VII. Public Control of Schools							
Black							
I. Socioeconomic Status of School/ Neighborhood		-.12	-.06	-.14	-.12	.30	-.06
II. U.S. Nativity			.07	.03	.04	.08	.08
III. Parenting				-.02	.22	.27	-.12
IV. School Urbanicity					.06	-.08	-.16
V. High School Atmosphere						.07	-.20
VI. Socioeconomic Status of Family							-.17
VII. Public Control of Schools							
Hispanic							
I. Socioeconomic Status of School/ Neighborhood		.23	.12	-.14	.26	.34	-.20
II. U.S. Nativity			-.07	.05	.16	.39	-.14
III. Parenting				-.11	.34	.28	-.14
IV. School Urbanicity					-.05	-.04	-.06
V. High School Atmosphere						.43	-.35
VI. Socioeconomic Status of Family							-.32
VII. Public Control of Schools							
Asian							
I. Socioeconomic Status of School/ Neighborhood		.10	.00	-.26	-.07	.28	.02
II. U.S. Nativity			.22	.00	-.03	.45	-.36
III. Parenting				-.03	.27	.28	-.16
IV. School Urbanicity					.10	-.20	-.20
V. High School Atmosphere						.10	-.24
VI. Socioeconomic Status of Family							-.23
VII. Public Control of Schools							

Note. Correlations that are both statistically (p < .05, two-tail) and practically (r > .10) significant are underscored.

TABLE 8

Multiple Correlations of Factor Scores with Race/Ethnicity in Total Sample

Factor	*Correlation*
I: Socioeconomic Status of School/ Neighborhood	.24
II: U. S. Nativity	.68
III: Parenting	.26
IV: Urbanicity	.34
V: High School Atmosphere	.09
VI: Socioeconomic Status of Family	.29
VII: Public Control of Schools	.06

Note. Correlations that are both statistically (p < .05) and practically (r > .10) significant are underscored.

(.43) in contrast to its slight or minimal correlations for the three other groups (.07 to .14). And, for Asian students, II: U.S. Nativity correlated moderately (-.36) with VII: Public Control of Schools, in contrast to its slight or minimal correlations for the other groups (.02 to -.14).

Correlations of Factor Scores with Race/Ethnicity

The multiple correlations of the factor scores with race/ethnicity appear in Table 8. Most of the factor scores had slight or minimal correlations, except the high correlation for II: U.S. Nativity (R = .68) and the moderate correlation for IV: School Urbanicity (R = .34). The other statistically and practically significant correlations, all slight, were for I: Socioeconomic Status of School/Neighborhood (.24), III: Parenting (.26), and VI: Socioeconomic Status of Family (.29).

TABLE 9

Correlations of Factor Scores with High School Grades and SAT® Scores in Total Sample

Factor	*GPA*	*HSR*	*SAT V*	*SAT M*
I. Socioeconomic Status of School/Neighborhood	-.04	-.10	.21	.25
II. U.S. Nativity	-.02	.02	.15	-.03
III. Parenting	.10	.06	.11	-.07
IV. School Urbanicity	.04	.00	-.03	.00
V. High School Atmosphere	.09	.09	.29	.15
VI. Socioeconomic Status of Family	.12	.07	.32	.28
VII. Public Control of Schools	-.04	-.02	-.19	-.16

Note. Correlations that are both statistically (p < .05) and practically (r > .10) significant are underscored.

Correlations of Factor Scores with High School Grades and SAT® Scores

The correlations of the factor scores with high school grades and SAT scores appear in Table 9 for the total sample (weighted). The corresponding correlations for the four racial/ethnic groups appear in Table 10.

Total Group

The correlations of the factor scores with high school grades were slight or minimal in the total sample. Two factor scores had statistically and practically significant correlations with Grade-Point Average, III: Parenting (.10) and VI: Socioeconomic Status of Family (.12); one factor score had such a correlation with High School Rank, I: Socioeconomic Status of School/ Neighborhood (-.10).

The factor scores also had scattered significant correlations with SAT scores, but the correlations were typically somewhat higher, though no more than moderate. One factor score, VI: Socioeconomic Status of Family, correlated moderately with SAT V (.32), and five other factor scores correlated slightly with this test, I: Socioeconomic Status of School/Neighborhood (.21), II: U.S. Nativity (.15), III: Parenting (.11), V: High School Atmosphere (.29), and VII: Public Control of Schools (-.19). Four factor scores correlated slightly with SAT M, I: Socioeconomic Status of School/ Neighborhood (.25), V: High School Atmosphere (.15), VI: Socioeconomic Status of Family (.28), and VII: Public Control of Schools (-.16).

Racial/Ethnic Groups

The correlations of the factor scores with high school grades and SAT scores were generally similar in the four racial/ethnic groups, with the exception of II: U.S. Nativity. This factor score correlated .22 with High School Rank for white students (its correlations were .02 to -.19 for the other groups) and .30 with SAT V for Hispanic students (its correlations were .02 to .12 for the other groups).

VI. Discussion

A key outcome is that most of the educational disadvantage variables in the study can be represented by several factors. The factors number five or six, depending on whether the Public Control of Schools factor is included. (This factor is defined solely by proxy variables for potentially relevant school characteristics, but it is related to SAT performance.) These five or six

TABLE 10

Correlations of Factor Scores with High School Grades and SAT Scores in Racial/Ethnic Groups

Factor	*GPA*	*HSR*	*SAT V*	*SAT M*
White				
I. Socioeconomic Status of School/ Neighborhood	-.05	-.13	.23	.23
II. U.S. Nativity	.04	.22	.11	.13
III. Parenting	.12	.04	.08	.14
IV. School Urbanicity	.14	.08	.07	.11
V. High School Atmosphere	.06	.09	.27	.13
VI. Socioeconomic Status of Family	.15	.04	.26	.28
VII. Public Control of Schools	-.06	-.06	-.19	-.20
Black				
I. Socioeconomic Status of School/ Neighborhood	-.18	-.07	-.01	.04
II. U.S. Nativity	-.09	-.12	.02	-.23
III. Parenting	.11	.03	.04	-.10
IV. School Urbanicity	-.03	-.05	.16	.06
V. High School Atmosphere	.14	.08	.34	.23
VI. Socioeconomic Status of Family	-.03	.06	.26	.14
VII. Public Control of Schools	-.02	.02	-.15	-.08
Hispanic				
I. Socioeconomic Status of School/ Neighborhood	-.02	-.17	.20	.23
II. U.S. Nativity	.07	.02	.30	.22
III. Parenting	.11	.17	.11	-.04
IV. School Urbanicity	.08	.08	-.07	.04
V. High School Atmosphere	.12	.04	.33	.26
VI. Socioeconomic Status of Family	.08	-.04	.38	.24
VII. Public Control of Schools	-.09	.03	-.24	-.12
Asian				
I. Socioeconomic Status of School/ Neighborhood	-.06	-.01	.18	.21
II. U.S. Nativity	-.22	-.19	.12	-.12
III. Parenting	-.03	-.01	.10	-.07
IV. School Urbanicity	-.04	-.06	-.13	-.13
V. High School Atmosphere	.11	.04	.31	.08
VI. Socioeconomic Status of Family	.02	.00	.39	.31
VII. Public Control of Schools	.15	.16	-.18	.02

Note. Correlations that are both statistically ($p < .05$, two-tail) and practically ($r > .10$) significant are underscored.

factors are not only distinguishable from each other but no more than moderately related.

Only two of these factors, U.S. Nativity and Parenting, describe the student; the remaining factors describe the student's schools and neighborhood. Not only do school factors predominate, but they also appear more potent, judging from their higher correlations with SAT scores.

The failure of about a fifth of the educational disadvantage variables to define factors is surprising. They include some variables that were previously linked to cognitive development, school success, and educational attainment: preschool attendance, student/teacher ratio, parental expectations, sibship size, and maternal age. Although these variables appear relevant to educational disadvantage, it is evident that they have little in common with the other variables in the study.

Another central finding is the emergence of a separate family socioeconomic status factor that is moderately related to the educational disadvantage factors. This outcome implies that educational disadvantage is distinguishable from socioeconomic status though the two are associated. Similarly, the generally modest associations of these factors with race/ethnicity indicates that they are distinguishable from it, too.

Another unexpected finding is the scattered and no more than moderate associations of the educational disadvantage factors with high school grades and SAT scores, mainly involving the school factors. The weak relationships were unanticipated because variables were chosen for this study because of their potential relevance to such outcome variables. Indeed, three of the educational disadvantage factors were defined by variables previously linked to these outcomes: Socioeconomic Status of School/Neighborhood, Parenting, and High School Atmosphere. There are probably two major reasons for this anomalous result as well as the equally anomalous finding that a substantial fraction of educational disadvantage variables did not define factors. One reason is the difference between SAT takers and the subjects in the studies in which these variables were identified as relevant. The SAT takers are probably more able and more academically motivated than their peers who are not bound for college. The SAT takers are also older than the subjects in some of the previous studies, which used elementary school children or even preschoolers. These population differences could be expected to attenuate the relationships of the educational disadvantage variables with each other and with outcome variables. The other reason is that many of the school variables were identified in studies that used schools, not students, as the units of analysis. Aggregated data for schools are more reliable than data for individual students, and hence more likely to display substantial relationships.

The somewhat greater associations of several of the educational disadvantage factors and the family socioeconomic status factor with SAT scores than with high schools grades deserves comment. Differences in grading standards from school to school, though they would be expected to reduce the validity of Grade-Point Average and High School Rank as criteria of educational success in this study, cannot entirely account for the disparity in the correlations of the factors with grades and SAT scores, for grades *were* predictable from the SAT scores (SAT V correlated .45 with Grade-Point Average and .40 with High School Rank; SAT M correlated .48 and .47, respectively). What, then, is the nature of the variance that the factors and the SAT scores share with each other but not with grades? The most likely explanation is that the factors and the test scores reflect cognitive variance whereas the grades reflect motivational variance (Willingham, Pollack, and Lewis, 2000).

The general correspondence across ethnic groups in the intercorrelations of the factors and in their correlations with high school grades and SAT scores, apart from predictable differences for the U.S. Nativity factor, suggests that the nature of educational disadvantage is similar for these groups.

This initial attempt at exploring the domain of educational disadvantage suggests that the individual differences perspective on disadvantage advocated by Novick and Ellis (1977) is a viable one and that educational disadvantage is a meaningful and useful construct. Educational disadvantage is clearly relevant in basic research in educational and developmental psychology, in applied research on the college admission process and the validity of cognitive tests used in admission, and in research and development efforts aimed at devising improved procedures and devices for use in admission.

On this last point, the present findings lay the groundwork for devising a standardized measure of educational disadvantage for use in college admission in place of the unsystematic methods that are currently employed to assess this construct. All but two of the educational disadvantage factors, Parenting and High School Atmosphere, used information that is already obtained from students via the SDQ or that can be readily secured from archival variables for the schools. The two remaining factors could be assessed, if need be, by a questionnaire with scales modeled after those used in this study. Using scales of this kind in high stakes situations, such as admission, could be problematic because of the potential for distortion inherent in reliance on self-reports, but it might be possible to

devise some means of verifying the reports or, alternatively, to identify and use proxy variables that are more objective and less susceptible to distortion. Such a measure would also have a variety of applications in basic and applied research.

Although a reasonably comprehensive set of variables and a representative sample of college-bound high school seniors were studied, the results are clearly not definitive. The analyses were more exploratory than confirmatory, given the uncharted character of this area and the analytic limitations imposed by the relatively modest sample. No information was secured directly from parents or schools, little was gleaned about the students' early years, and the students were academically elite adolescents. Hypothesis-testing research that builds on this study while broadening the array of educational disadvantage variables investigated and focusing on younger cross sections of all youth may alter the number and nature of the educational disadvantage factors as well as their links with cognitive and educational outcomes. It seems doubtful, though, that the basic conclusions that educational disadvantage is multidimensional and distinguishable from socioeconomic status and race/ethnicity will be affected.

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Appendix

A reproduction of the letters and questionnaire follows.

Educational Testing Service

October 14, 1999

Dear SAT Taker,

We need your help! Educational Testing Service and the College Board are conducting a survey of students who are planning to attend college. We are interested in how the educational achievement of college-bound students like you is influenced by the schools they attend, the neighborhoods they live in, and the families they grow up in. For that reason we are writing to you and other students who took the SAT recently. Our goal is to learn more about your experiences in and out of school, in an effort to learn more about how they may be related to performance in high school and on college admissions tests. The survey will help us and colleges improve the college admissions process, thereby benefiting future applicants to college.

Please complete the enclosed questionnaire and mail it back to us in the pre-addressed envelope. The questionnaire should take only about 15 minutes of your time. We hope you will be candid. Your answers will be treated as confidential, and they will not affect your SAT scores in any way. Although we would like you to answer as many of the questions as you can, you may skip any question you don't want to answer.

The questionnaire asks for the names of the schools you attended. We need their names to get government statistics about the schools themselves, such as class sizes and budgets. We will not get school records for individual students.

Your participation in the survey is very important to us. You were selected as part of a sample that was scientifically chosen to represent all SAT takers. The usefulness of this survey depends on the participation of everyone in the sample. (If, for any reason, you registered for the SAT but didn't actually take it, we would still like you to participate in the survey.) Please take the time to respond and accept the enclosed check for $5 with our thanks for your assistance.

Please get in touch with me (by phone [609] 734-5557; via e-mail, lstricker@ets.org) if you have any questions or concerns about the survey or your participation in it.

Sincerely,

Lawrence J. Stricker

LJS:md
Enc.

Lawrence J. Stricker, Ph. D.
Principal Research Scientist

Survey of SAT Takers

Educational Testing Service 

November 4, 1999

Dear SAT Taker:

Last month we sent you a questionnaire about college-bound students' experiences in and out of school that may influence their educational achievement. If you have returned your completed questionnaire, thank you very much. If you have not sent it back yet, please take the short time it requires to complete the questionnaire and send it back to us in the accompanying self-addressed envelope. (Another copy of the questionnaire and an envelope are enclosed in case you misplaced the others.) Your answers will be confidential and will not affect your SAT scores. And they will help improve the college admissions process and benefit future applicants to college.

We urge you to write (at the above address), call (609-734-5557), or e-mail me (lstricker@ets.org) if you have any questions about the survey. Thank you for your help.

Sincerely,

Lawrence J. Stricker, Ph.D.
Principal Research Scientist

LJS:md
Enc.

Survey of SAT Takers

Survey of SAT Takers

Please answer the questions by checking (✓) the appropriate boxes or writing in the information asked for. You may use a pen or pencil.

These questions are about your experiences in school.

1 **Did you attend these schools or programs?** *(Check one on each line)*

	Yes	No	Don't know
1. Day care	❑	❑	❑
2. Nursery school	❑	❑	❑
3. Kindergarten	❑	❑	❑

2 **What is the last *grade school* that you attended?** *(Write in the name and location)*

Name _____

City and State _____

3 ***If you attended a middle school or junior high school*: What is the last *middle school or junior high school* that you attended?** *(Write in the name and location)*

Name _____

City and State _____

4 **What is your current *high school*?** *(Write in the name and location)*

Name _____

City and State _____

5 **How well do these statements describe your current high school?** *(Check one on each line)*

	Very true	Somewhat true	Not at all true	Don't know
Teachers...				
1. Teachers think you could finish college.	❑	❑	❑	❑
2. Teachers do *not* push students to work hard.	❑	❑	❑	❑
3. Teachers try to accomplish a lot in every class session.	❑	❑	❑	❑
4. Teachers are *not* interested in whether their students learn.	❑	❑	❑	❑
5. Teachers tell students how well they are doing.	❑	❑	❑	❑
6. Teachers emphasize preparing for college.	❑	❑	❑	❑
7. Teachers do *not* keep track of how well students are doing.	❑	❑	❑	❑
8. Teachers plan their classes well.	❑	❑	❑	❑
9. Teachers require homework and grade it.	❑	❑	❑	❑
10. Teachers have clear rules they expect students to obey.	❑	❑	❑	❑
Classes...				
11. Classes are disrupted by rowdy students.	❑	❑	❑	❑
12. Classes spend more time on irrelevant things than on class material.	❑	❑	❑	❑
13. Classes are *not* disrupted by noise in the school or outside it.	❑	❑	❑	❑
14. It's hard to hear teachers because of noise in the school or outside it.	❑	❑	❑	❑
15. It's hard to concentrate in class because of noise in the school or outside it.	❑	❑	❑	❑

	Very true	Somewhat true	Not at all true	Don't know
Students...				
16. Students do *not* feel safe at school.	❑	❑	❑	❑
17. Students who do outstanding schoolwork are admired by their classmates.	❑	❑	❑	❑
18. Students do *not* work hard at their studies.	❑	❑	❑	❑

6 **These are questions about the friends you spent most of your time with during your *junior* year of high school.** *(Check one on each line)*

	None of them	A few of them	About half of them	Most of them	All of them
1. How many were doing well in high school?	❑	❑	❑	❑	❑
2. How many planned to go to college?	❑	❑	❑	❑	❑
3. How many talked about schoolwork with you?	❑	❑	❑	❑	❑
4. How many worked hard on schoolwork?	❑	❑	❑	❑	❑

These questions are about your family. In the questions about your parents, answer about your stepparents or guardians if you live with them instead of your real parents.

7 **How far do you think your parents (or stepparents or guardians) expect you to go in school?** *(Check one)*

- ❑ 1. Graduate from high school
- ❑ 2. Some college
- ❑ 3. Associate's or 2-year degree
- ❑ 4. Bachelor's or 4-year degree
- ❑ 5. Graduate or professional degree
- ❑ 6. Don't know

8 **How well did your parents (or stepparents or guardians) expect you to do in high school?** *(Check one)*

- ❑ 1. One of the best students
- ❑ 2. Better than most students
- ❑ 3. Same as most students
- ❑ 4. Not as good as most students
- ❑ 5. One of the worst students
- ❑ 6. Don't know

9 **Did your parents (or stepparents or guardians) do these things during your *junior* year of high school?** *(Check one on each line)*

	Yes	No	Don't know
1. Attend an event for parents (PTA meeting, career night, etc.) at the school.	❑	❑	❑
2. Attend a student activity (sports event, play, concert, etc.)	❑	❑	❑
3. Help out at school (field trips, bake sales, etc.)	❑	❑	❑
4. Attend a regular parent/teacher conference.	❑	❑	❑
5. Talk to your teachers or counselors about choice of courses, college plans, etc.	❑	❑	❑

10 **How often did your parents (or stepparents or guardians) do these things during your *junior* year of high school?** *(Check one on each line)*

	Never	Rarely	Occasionally	Frequently	Very often
1. Help you with homework or school assignments.	❑	❑	❑	❑	❑
2. Check to see if you did homework.	❑	❑	❑	❑	❑
3. Help you prepare for tests.	❑	❑	❑	❑	❑
4. Discuss things you studied in school.	❑	❑	❑	❑	❑
5. Ask you about your progress in school.	❑	❑	❑	❑	❑
6. Talk about your plans for college.	❑	❑	❑	❑	❑

11 **How often do your parents (or stepparents or guardians) do these things?** *(Check one on each line)*

	Never	Rarely	Occasionally	Frequently	Very often
1. Praise you for things you do in school.	❑	❑	❑	❑	❑
2. Encourage you to go to concerts or other musical events.	❑	❑	❑	❑	❑
3. Tell you it's important to get a good education.	❑	❑	❑	❑	❑
4. Be affectionate to you.	❑	❑	❑	❑	❑
5. Encourage you to give your opinion even if they disagree.	❑	❑	❑	❑	❑
6. When you get a good grade, say you should do even better.	❑	❑	❑	❑	❑
7. Encourage you to read.	❑	❑	❑	❑	❑
8. Insist you speak correctly at home.	❑	❑	❑	❑	❑
9. Admit you know more about some things than they do.	❑	❑	❑	❑	❑
10. Encourage you to visit libraries or museums.	❑	❑	❑	❑	❑
11. Make sure you understand the reasons for their rules and decisions.	❑	❑	❑	❑	❑
12. Say nice things about you to other people.	❑	❑	❑	❑	❑
13. Show they approve of you.	❑	❑	❑	❑	❑
14. Talk to you about current events in your community, the country, or the world.	❑	❑	❑	❑	❑
15. Tell you not to question their ideas.	❑	❑	❑	❑	❑
16. Support and help you when you have trouble.	❑	❑	❑	❑	❑
17. Answer your arguments by saying something like "You'll know better when you grow up."	❑	❑	❑	❑	❑
18. Give you articles from newspapers or magazines to read.	❑	❑	❑	❑	❑

12 **How often do your parents (or stepparents or guardians) read these things?** *(Check one on each line)*

	Never	Once a month or less often	More than once a month but not weekly	Once a week or more
1. Newspapers	❑	❑	❑	❑
2. Magazines	❑	❑	❑	❑
3. Books	❑	❑	❑	❑

13 **How often does your family do these things?** *(Check one on each line)*

	Never	Rarely	Occasionally	Frequently	Very often
1. Confide in each other.	❑	❑	❑	❑	❑
2. Ignore each other.	❑	❑	❑	❑	❑
3. Make it clear they care about what happens to each other.	❑	❑	❑	❑	❑
4. Yell at each other.	❑	❑	❑	❑	❑

14 **Which of these things does your family have?** *(Check as many as apply)*

- ❑ 1. Daily newspaper
- ❑ 2. Dictionary
- ❑ 3. Encyclopedia
- ❑ 4. Pocket calculator
- ❑ 5. Computer
- ❑ 6. VCR, DVD, or laser disc player
- ❑ 7. Musical instrument
- ❑ 8. Art supplies
- ❑ 9. Scientific equipment
- ❑ 10. Cell phone
- ❑ 11. Microwave oven
- ❑ 12. Dishwasher
- ❑ 13. Room or central air conditioner
- ❑ 14. House or apartment owned (not rented)

15 **How many rooms are there in your home? Count only the rooms your family lives in. (Count the kitchen, if it is separate, but not bathrooms.)** *(Write in the number of rooms)*

☐☐ rooms

16 **Who do you live with?** *(Check one)*

❑ 1. Mother and father ❑ 2. Mother and stepfather ❑ 3. Father and stepmother ❑ 4. Mother ❑ 5. Father ❑ 6. Other

17 **How many brothers and sisters do you have *altogether*? Include stepbrothers and stepsisters, and half brothers and half sisters.** *(Write in the number of brothers and sisters)*

☐☐ brothers and sisters altogether

18 **How many people live in your home, including yourself, parents, brothers and sisters, relatives, and other people?** *(Write in the number of people)*

☐☐ people

19 **Where were your father (or stepfather or male guardian) and mother (or stepmother or female guardian) born?** *(Check one in each column)*

	Father (Stepfather/ Male Guardian) ↓	Mother (Stepmother/ Female Guardian) ↓
1. In the United States	❑	❑
2. Outside of the United States	❑	❑

20 **About how long have you lived in the United States?** *(Check one)*

❑ 1. All your life ❑ 2. More than 10 years ❑ 3. 6 to 10 years ❑ 4. 1 to 5 years ❑ 5. Less than 1 year

21 ***If you live with your mother, stepmother, or female guardian*: About how old is she?** *(Check one)*

❑ 1. Under 35 years old ❑ 2. 35 to 39 years old ❑ 3. 40 to 49 years old ❑ 4. 50 to 59 years old ❑ 5. 60 years old or more ❑ 6. Don't know

22 **What language do your parents (or stepparents or guardians) usually speak at home?** *(Check one)*

❑ 1. English ❑ 2. Chinese ❑ 3. French ❑ 4. German ❑ 5. Spanish ❑ 6. Other

23 **What kind of work does your father (or stepfather or male guardian) and your mother (or stepmother or female guardian) do? The exact jobs may not be listed, but choose the jobs that come closest. (If they are unemployed, retired, disabled, or dead, choose their most recent jobs. If they have more than one job, choose the main job.)** *(Check one in each column)*

	Father (Stepfather/ Male Guardian) ↓	Mother (Stepmother/ Female Guardian) ↓
1. *Mechanic or Repairer*: such as automobile mechanic, office machine repairer, telephone installer.	❑	❑
2. *Craft or Precision Production Worker*: such as baker in bakery, bricklayer, cabinetmaker, factory foreman/forewoman, machinist, miner, tailor.	❑	❑
3. *Machine Operator or Assembler*: such as factory machine operator, production line worker, welder.	❑	❑
4. *Transportation Worker*: such as locomotive engineer, parking lot attendant, taxi driver, truck driver.	❑	❑
5. *Material Moving Worker*: such as crane operator, earth moving equipment operator, forklift operator, loading dock supervisor.	❑	❑
6. *Agricultural, Forestry, or Fishery Worker*: such as farmer, fishing boat captain, gardener, lumberjack, zookeeper.	❑	❑
7. *Handler, Helper, or Laborer*: such as car washer, carpenter's helper, construction laborer, refuse collector.	❑	❑
8. *Private Household Worker*: such as children's nurse, housekeeper in private home.	❑	❑
9. *Service Worker*: such as bartender, beauty shop manager, exterminator, hospital attendant, janitor, kitchen worker, waiter/waitress.	❑	❑
10. *Protective Service Worker*: such as court officer, firefighter, police officer, security guard.	❑	❑
11. *Armed Forces Member*: such as officer or enlisted person in the Army, Navy, Air Force, Marine Corps, Coast Guard.	❑	❑
12. *Professional*: such as architect, athlete, dentist, entertainer, lawyer, physical therapist, pharmacist, professor, registered nurse, scientist, social worker, teacher.	❑	❑
13. *Technician*: such as airplane pilot, air traffic controller, computer programmer, dental hygienist, legal assistant, licensed practical nurse, laboratory technician.	❑	❑
14. *Executive or Administrator*: such as accountant, executive, funeral director, government official, management consultant, purchasing agent, restaurant owner or manager, school principal.	❑	❑
15. *Clerical or Administrative Support Worker*: such as bank teller, computer operator, insurance adjuster, mail carrier, meter reader, office clerk, secretary, telephone operator.	❑	❑
16. *Sales Worker*: such as cashier in store, insurance agent, real estate developer, salesperson, stock broker, store owner or manager, wholesale distributor.	❑	❑
17. *Homemaker* (for own family)	❑	❑
18. *Other* (Write in: _____)	❑	❑
19. *Don't know*	❑	❑

Thanks for participating in this survey.
Please return the questionnaire in the enclosed postage-paid envelope.